NC NEWS
NORTH CENTRAL FOREST EXPERIMENT STATION
December 1999/January 2000

Happy New Year!

To Station Employees, Clients, and Cooperators:

AS WE REFLECT on the promise of a new century and a new millennium, I extend to you my best wishes for a happy and healthy new year. Looking ahead, I can't help thinking about what has just passed—1999, a year at North Central that included the Millennium Tree, a gift to the Nation from the Station and the State of Wisconsin. Last January, we were looking for the perfect tree and recruiting the partners who would ultimately bring it to Washington. We closed the year with a beautiful lighting ceremony that captured the joy of the season and filled our hearts with pride. In between, the Millennium Tree let us share with new and eager audiences the story of Forest Service research and the people who make it possible.

The tree taught us many lessons. We discovered anew what great things can happen when diverse groups come together for a common cause. We experienced the enthusiasm for forests that the next generation possesses. We recalled a remarkable story of rebirth as we contemplated the history of the Lake States forests and the legacy of scientific knowledge that made their renewal possible.

But the lesson that impressed me deeply was the courage and conviction that this tree represented. The tree was planted in 1932 as part of a provenance trial for tree improvement of white spruce. In the midst of the Great Depression and a devastated landscape, scientists had the vision of a new forest and made choices that would begin creating it. It was not at all certain that they would succeed. But they embraced their dream and took steps to make it a reality. At the brink of a new millennium, we need to do likewise. We cannot let difficult budgets or political winds limit our vision of what could be and the actions needed to achieve it.

I believe North Central is stepping forward to realize a vision of policy-relevant science for the next century. These examples reinforce my belief.

- We've successfully launched three integrated research programs—Sustaining Riparian Landscapes, Forest Productivity, and Landscape Change. Your feedback shaped the direction and scope of those programs, which are designed to answer critical questions facing policy makers in communities across the Midwest. In 2000, we will see new studies in place and begin reaping the results of our past efforts.

- Early this year, we will finalize a publication setting out North Central's research priorities for the next 5 years. It clarifies the thinking behind the research program we've embarked on and sets the goals by which you can track our progress. Having such a vision clearly defined will let us measure the results we achieve and how successfully those results have met your needs.

- We are refining the Station's communication tools, such as *NC News* and the web site, as part of our commitment to excellent customer service. Putting research information to work in helpful and timely ways remains a top priority for us.

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In The News

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We've completed our leadership team by adding Deb Dietzman as the group leader for communications. She brings communication experience with research, land management, and news media organizations to North Central and is committed to finding innovative ways of making our research results more accessible and useful to you.

The North Central Research Station carries a rich history of creating greater knowledge about Midwestern landscapes and how people use and affect them. That legacy was created by dedicated individuals with a dream. Today, we are creating the legacy for the next century with an equally dedicated and equally creative workforce. I share your excitement and enthusiasm for the task and look forward to seeing what we will discover together in the year 2000.

People on the Move. . .

Congratulations!

Mark Nelson, **Dan Wendt**, **Tom Schmidt**, **Cindy Johnson**, *St. Paul*; **Ray Sanders**, *Grand Rapids*; **Kathy Heise**, **Steven Metzner**, *Rhinelander*; **Paul Snouffer**, *Hayward*; **Jeremy Vlcan**, *Springfield*; and **Brian Wall**, *Wisconsin Rapids* were promoted.

Neal Sullivan, *Columbia*, received an award for providing interim computer support to the Columbia lab during 1999.

Edward Loewenstein, *Columbia*, received an award for his leadership of the Columbia lab Safety and Wellness Program.

Aimee Alger, *Grand Rapids*, received an award for her superior performance of all of her duties, positive attitude and efforts beyond expectations to complete numerous additional projects.

James Church, *Grand Rapids*, received an award for his superior performance of all of his duties with the research on amphibians, invertebrates in forest ponds, and additional riparian and pond-related research in the lab.

Debbie Krawczyk and **Erin Witkin**, *St. Paul*; and **Kathy Heise**, *Rhinelander*, received an award for their exceptional support during the summer of 1999 to ensure procurement actions were completed in the absence of the Station's Purchasing Agent and in preparation for conversion to the Foundation Financial Information System (FFIS).

Michael Worland, *Rhinelander*, received an award for his outstanding performance in training and supervising field crews during the past three field seasons on the openlands program, specifically the Kirtland's Warbler work.

Douglas Munson, *Rhinelander*, received an award for his outstanding performance in pilot-testing and modifying census techniques of the openland avian program, supervising and coordinating temporary help, and completing work with minimal supervision.

Jim Elioff, *St. Paul*, received an award from the WO for providing outstanding advice and assistance in hosting the 1999 Staffing and Classification Officer's meeting August 23-27, 1999 in Minneapolis, MN.

Ron Hackett and **Kevin Nimerfro**, *St. Paul*, received an award for their outstanding support and advice to the Research Information Group on technical issues.

Brian Potter, *East Lansing*, received an award for his strong personal effort in leading the Station's Multicultural Advisory Team (MAT) during FY99.

Beth Collins, *St. Paul*, received an award for her leadership of the Station's Federal Women's Program during 1997-1999.

Nancy Dudrey, *Grand Rapids*, received an award for her dedication and the extra effort that she demonstrated to handle the Support Services vacancy from June 6 to September 13, 1999.

Larry Peterson, *Rhinelander*, received an award for his excellent customer service while detailed to Management Systems at various times in FY98 and FY99.

Bev Crowther, *St. Paul*, received an award for her excellent customer service while Management Systems was very short staffed for an extended period of time during FY99.

Kelly Kissling, *St. Paul*, received an award for her exceptional persistence and success in dealing with US West, GSA, and the University of Minnesota resolving St. Paul's telephone problems.

Welcome!

Deb Dietzman transferred from Forest Products Laboratory, Madison, WI, to RI, *St. Paul*.

Moving on...

LaDonna Solnitzky, *St. Paul*, transferred to U.S. Attorney's Office.

Mike Vasievich, RWU-4804, *East Lansing*, transferred to Washington Office.

Syble Thon, *St. Paul*, resigned.

Basketweavers Gather at NC Black Ash Workshop

Since early times, skilled artists have created baskets of exquisite beauty using wood splints from the black ash (*Fraxinus nigra*), a tree that grows from Minnesota to Maine and into adjacent areas of Canada. The condition of black ash, and its suitability for basket material, seems to vary greatly across its range. Survival is tied to climatic factors such as drought and frost, which in turn make the trees susceptible to insects and disease. Today, Native basketmakers are concerned that the quality and availability of ash in their local areas may be declining, along with the art of basketweaving itself.

In June 1998, Native basketweavers from four Tribal affiliations, and research scientists and foresters from the North Central Station came together in Rhinelander, Wisconsin, to talk about black ash health, survival, and traditional use. Funding for the meeting came from the National American Indian Council, with coordination from NC's American Indian Program, the Northern Silviculture project in Grand Rapids, and the Maine Basketmakers Alliance. The group visited a black ash site on the Menominee Indian Reservation and a few sites on the Argonne Experimental Forest. At each site, Billy Neptune and Richard Silliboy, Native representatives from the Basketmakers Alliance, selected the best basket trees. John Zasada, project leader of the Northern Forest Silviculture project, assessed the width of the annual rings using an increment borer.

The group held a second workshop in Grand Rapids, Minnesota, in July. "This time, we had Ojibwe Tribal members from the LacCourte Oreilles and White Earth Reservations, Mohawk Tribal members from upstate New York and Canada, and Forest Service employees from North Central and from the Chippewa National Forest," said Peggy Castillo of NC's American Indian Program. Richard David, representing the Mohawk Council of Akwesane Department of Environment, reported on the Council's work in Canada and New York, and Zasada reported on Mary Collins' work on the black ash. (The Station supports the work of two graduate students studying black ash—Mary Collins of Michigan Tech University and Mike Benedict of the University of Minnesota.) After visiting sites on the Chippewa National Forest, Tribal members selected a 65-foot ash, which was cut into sections in preparation for the pounding process the next day.

Workshop participants take turns "pounding" to prepare black ash for basketmaking.

Pounding is the process by which the pliable wood strips called splints are prepared. The basketmaker shaves the outer bark, then pounds the wood with the blunt end of an axe. "Every workshop participant tried their hand at pounding," Castillo said. "You could tell who pounded the hardest by counting the number of blisters on the palms of their hands." Done properly, pounding causes the splints to seperate from the log like the pages of a book. As Zasada explained, "pounding crushes the fragile springwood vessels that move water through the tree. This leaves the thicker-walled summerwood portion of the annual ring, which comprises the splints. Black ash splints are unusually flexible, allowing basketmakers to bend them nearly 90 degrees."

"It was a memorable day," Castillo said. "In addition to creating usable splints for basketweaving, new relationships were woven between Native basketweavers and Forest Service employees." Inspired by the workshop, a few participants conducted small workshops back home, with promises of bigger events next year. One such workshop is being planned on the LacCourte Oreilles Ojibwe Reservation.

These workshops are the beginning of a conversation, an inquiry into issues important to basketmakers: How can we insure adequate regeneration and availability of black ash? How might the commercialization of black ash baskets affect this supply? If you're interested in becoming involved in future workshops, please contact John Zasada (218-326-7109) or Peggy Castillo (651-649-5026).

Contributed by Peggy Castillo

North Central Cosigns Tribal Gathering Rights Agreement

"Since time immemorial, the Tribes have traditionally harvested certain plants and other resources found on lands now managed as the National Forests to meet subsistence, religious, cultural, medicinal, and commercial needs. The Tribes' culture and lifeway depend on this harvest activity, and they wish to protect and enhance the natural resources on which they rely."

The statement above is from the Memorandum of Understanding Regarding the Recognition and Implementation of Tribal Ceded Territory Rights signed by the USDA Forest Service and Tribes that are members of the Great Lakes Indian Fish and Wildlife Commission. We thought you'd like to know a little more about research's role in this important agreement. First some history…

As part of the treaties of 1836, 1837, and 1842, Tribes in northern Wisconsin were ceded territory rights to gather wild plants and to harvest wild animals on lands administered by the Forest Service. In the early 1990's, several federally recognized Chippewa Indian Tribes asked the Forest Service for consistent regulations on the gathering of wild plants on national forest lands in their ceded territory. They also wanted the opportunity to issue their own permits and regulate their own members. In response, a team of Forest Service employees, including a researcher at NC, began meeting with the Tribes in 1993 to craft an agreement.

According to NC representative Jud Isebrands: "We wanted to craft a consistent set of practices to guide Forest Service and Tribal interactions—to make sure, for instance, that the needs and wishes of the Tribes were integrated into national forest planning." Negotiated items included Tribal self-regulation of harvesting activities, cooperative research opportunities, and collaborative management of special product harvesting. The goal of both parties was to sustain the yield of the natural resources that are important not only to the Tribes' lifeway, but also to the health of natural ecosystems.

A formal government-to-government agreement was signed in December of 1998 by the Forest Service and nine Chippewa Tribes. This memorandum of understanding recognizes and helps to implement the exercise of the Tribes' ceded treaty rights to gather wild plants on the Hiawatha and Ottawa National Forests, most of the Chequamegon-Nicolet National Forest (except a small part of the southeastern corner), and the northernmost reaches of the Huron-Manistee National Forest.

Special forest products included in the agreement are plants traditionally gathered for food, medicine, and other purposes. The most commonly gathered products include fir boughs, birch bark, maple sap, decorative greens, and firewood. The agreement also provides for limited harvest of live trees for non-industrial timber purposes, such as building log homes for Tribal members. After a several-month public comment period, both parties have accepted comments and considered suggestions that may clarify or improve the agreement. (See www.fs.fed.us/r9/cnnf/ for details.)

John Zasada with black ash baskets, one of many special forest products.

According to the memorandum of understanding, the Tribes and the Forest Service agree to work together on research projects to determine the amounts of harvest and effects of hunting, fishing, and gathering wild plants on plant populations and on the ecosystems that support the plants.

NC and the Tribes agreed to:

1. Review their research projects and administrative studies as needed to encourage research coordination.

2. Establish and implement a program of research, monitoring, and evaluation regarding the resources subject to the Tribes' ceded territory rights that specifically would:
   a. Inventory species status and habitat requirements
   b. Monitor the population dynamics and habitats of species as Forest Plans are implemented
   c. Determine the effects of land management activities, such as timber harvest, on species' populations
   d. Determine the effects of wild plant harvest on the status of the species being harvested
   e. Evaluate such other's matters that relate to the resources subject to the Tribes' ceded territory rights.

North Central's role as a cooperator is to help ensure the long-term sustainability of special forest products through research, inventory, and monitoring. For the Tribes, long-term sustainability has a very specific meaning; they want to make sure that these resources will be available not just to this generation, but to the seventh generation hence. Research is a key tool to carrying out this intergenerational responsibility.

Kissing TOADS and Greening Brownfields—Research in the Riparian Rustbelt

Streams, marshes, lakes, prairies, hulking steel mills, coke plants, and burnt-out breweries. If these sound like unlikely neighbors, you haven't been to the Calumet region of Chicago. Lynne Westphal, a research social scientist with NC's Natural Environments for Urban Populations unit, led researchers on a tour of the site recently. They were gathering ideas for an innovative research project into the economic and ecological recovery of a degraded landscape.

"Calumet is like dozens of urban riparian areas along the industrial corridor of the U.S.," Westphal said. "What remains after industry leaves is a clean-up chore, a deflated local economy, and, in a surprising number of cases, a natural community that stages a comeback." In Calumet's case, lakes, wetlands, and prairies are flourishing amid the brownfields (contaminated lands), and TOADS (Temporarily Obsolete, Abandoned, or Derelict facilities). For residents who choose to see the snowy egret instead of the methane flare, Calumet is a recreational getaway, a place that most of the city has forgotten.

Until now, that is. In a city with a finite amount of commercial and open space, Calumet is a diamond in the rough. Redevelopment interests, government agencies, and resident groups with names like CIMBY (Calumet is My Backyard) are discussing the future of the region. Policy questions abound: how to zone the area, how to provide for the needs of commercial and non-commercial interests, and how to enhance its ecological integrity.

"What's new about Calumet," said Westphal, "is that we are attempting, on the same piece of land at the same time, to ecologically and economically resuscitate an area." Suzanne Malec, Deputy Commissioner for Natural Resources with Chicago's Department of Environment, said, "The stars are aligning as a variety of agencies and citizens groups work together. Calumet will see improvements in economic climate, water quality, natural habitat, and recreational opportunities." As Sandy Verry, a research hydrologist with NC's Riparian Ecosystems unit said, "There's room to make big changes here to bring this place back."

"Bringing it back" means restoring its value for all kinds of residents. "The largest nesting colony of black-crowned night herons in Illinois is here," says John Rogner, Field Supervisor for the U.S. Fish and Wildlife Service. Other State-listed (endangered or threatened) species include pied-billed grebes, common moorhen, and yellow-headed blackbird. It's also a refuge for human residents.

"Having getaway places nearby may reduce people's need to buy 5 acres up north," Westphal said.

This land use feature, combined with riparian restoration, gives Calumet a place in two of NC's new integrated programs—Landscape Change and Sustaining Riparian Landscapes. Possible research questions include:

- What are the tradeoffs between riparian area structure and social/economic value? Models of various scenarios (with different degrees of ecological restoration and economic development) could help decisionmakers choose the best course of action.
- What is required to re-create high-quality habitat for various bird species that depend on this area as an island in a sea of development?
- How can restoration of Calumet meet the various needs and interests of local residents and other stakeholders?
- How might filtering by plants be used to restore water and riparian habitat quality?
- What is the most effective way to control exotic species?

Final research questions will be crafted with the help of policymakers, managers, and neighborhood groups. Results will be shared with professional planners, environmental designers, industrial ecologists, and people in the brownfield and restoration movements. A web site will offer an archive of data for people facing similar questions around the world.

As we begin to run out of "other places" to live and work, it's time to kiss the TOADS, and bring them back to life. NC researchers hope to show how, starting in Calumet.

Indian Ridge Marsh in the Calumet area of Chicago.

How Nature Heals—Lessons from the Boundary Waters Blowdown

Ten thousand people were in Minnesota's Superior National Forest when the July 4, 1999, windstorm hit. Packing winds up to 100 miles per hour, it took just half an hour to nearly level half a million acres of forest. That's a swath 35 miles long and 12 miles wide, most of it in the Boundary Waters Canoe Area Wilderness. Ontario, Canada reported nearly 300,000 additional acres of damage.

Helicopters evacuated 20 injured people, including a woman with two broken legs who waited several days for airlift. Overland crews labored through 12- to15-foot-high walls of trunks and branches, clearing 550 portages and 1,520 campgrounds. For campers who hand-sawed their way to safety, the adventure was indelible.

For the forest, the adventure is just beginning. When 25 million trees are stacked bonfire-style, the potential for impact—on residual vegetation, wildlife, water, soil, pest populations, and human communities—is tremendous. For NC researchers like John Zasada, project leader of the Northern Forest Silviculture unit in Grand Rapids, it's a "once-in-a-career chance to study forest renewal after a massive weather event." Zasada is part of a team of NC researchers formulating a research and monitoring program at the request of the Superior National Forest.

Before the snow flew, Zasada's crew measured six experimental plots in blowdown areas along the Gunflint Trail. They described vegetation and soil disturbance conditions post-blowdown as a baseline for their 10- to 15-year study. "We're interested in understanding forest succession in the wake of a dual disturbance—first the windstorm and then a variety of post-storm treatments to reduce fuels, such as logging, prescribed burning, chipping, crushing, or no treatment. We'll compare the various treatments by noting what kinds of vegetation comes back, how fast it grows, how the soil fares, etc." This summer, they'll expand their study to compare how forests in two distinct soil types respond to similar salvage treatments. Co-investigator Dan Gilmore, an assistant professor at the University of Minnesota Department of Forest Resources, says the study will help managers understand their role in forest change: "Does what we do after a storm event make a difference in what comes back? Does it affect what successional path the forest takes?"

NC researchers have a front row seat at a living demonstration of storm damage and recovery.

Between now and the next forest, the threat of big catastrophic fire looms large. Water quality is also a concern, given the loss of tree cover and log-choked streams. What about the insects attracted to the demolition work—might their populations build up and spill into non-damaged forest? And how might this additional disturbance affect recreation and tourism? Is there a way to reduce the threat? Can we, should we, encourage a more resilient, long-lived forest to rise from the jackstraws of the Fourth of July storm? What does the public want?

In early March, NC will host a meeting of scientists and other resource personnel to talk about how to formally investigate the issues stirred up by the storm. Teams of investigators in seven areas—watershed management, wildlife, recreation and tourism, fire and meteorology, insects and disease, silviculture, and desired future conditions—will draft short- and long-term research goals.

Research Team Leader Bill Mattson is eager to dig into the storm-aftermath research. "Compared to coastal and tropical storms, continental storms are underappreciated and understudied. Yet these change agents are likely to become more frequent and severe as our global climate continues to change." In their article about extreme wind events in the Upper Midwest (*BWCAW Wilderness News*, Autumn 1999), Lee Frelich and Peter Reich, University of Minnesota, cite two other "superblowdowns," one in northern Wisconsin in 1977 and one just north of Itasca, Minnesota, in 1995. Each storm damaged close to 350,000 acres. "Don't be surprised if another superblowdown occurs in northern Minnesota within the next decade," they conclude.

As resource managers on the Superior and Chippewa are finding out, storms like this one, which gave only 10 minutes warning, need to be on our long-term planning radar. How we respond in the aftermath may very well affect how the forest heals and how it responds next time. If you'd like to participate in this research program, contact Bill Mattson at 715-362-1174, and wmattson/nc_rh@fs.fed.us